



REGISTRATION ELIGIBILITY & CONTACT MANAGEMENT



Project Management Plan

Version 1.0

Final

November 28, 2005

**VA Enterprise Architecture Management
System Integration Directorate**



Department of Veterans Affairs

APPROVAL SIGNATURES

Fran Parker

Project Manager

VA OI&T Enterprise Architecture
Management

System Integration Directorate

Date

Gary Baker

Director, HEC

Date

Leo Phelan

CM Lead

Ofc. of Facilities, Access &
Administration

Date

Gary Krizanovic

Deputy, ADAS

VA OI&T Enterprise Architecture
Management

Date

Scott Cragg

ADAS

VA OI&T Enterprise Architecture
Management\EOC

Date

Jack McCoy

EOC

Date



Department of Veterans Affairs

Dennis Lewis

EOC

Date

Dan Tucker

EOC

Date



Department of Veterans Affairs

RECORD OF CHANGES

VERSION NUMBER	DATE	NUMBER OF FIGURE, TABLE OR PARAGRAPH	A* M D	TITLE OR BRIEF DESCRIPTION	CI IDENTIFIER
.07	11/01/05	Draft PMP	M	Modifications to the Draft PMP made by Michael Geremina, Edward Brennan, Trevor Siegel and Lina Dobbs.	
.08	11/15/05	Revisions to Final	M	Modifications by Trevor Siegel per comments from Fran Parker	
.09	11/18/05	Revisions to Approval Signatures Table	M	Modifications by Trevor Siegel per direction from Fran Parker	
1.0	11/28/05	Revisions to Final per feedback from RE&CM team	M	Modifications by Trevor Siegel per feedback from RE&CM project team.	

***A – ADDED**

M – MODIFIED

D – DELETED



TABLE OF CONTENTS

APPROVAL SIGNATURES.....	I
RECORD OF CHANGES.....	III
SECTION 1. OVERVIEW	1
1.1 Project Management Context.....	1
1.2 Document Structure.....	2
1.3 Executive Summary.....	2
1.3.1 Purpose, Scope, and Objectives.....	3
1.3.2 Assumptions and Constraints.....	4
1.3.3 Project Deliverables.....	4
1.3.4 Master Schedule and Budget Summary.....	4
1.3.5 Evolution of the Plan.....	6
SECTION 2. REFERENCES.....	7
2.1 Standards and Documents.....	7
2.2 Deviations and Waivers	7
SECTION 3. ABBREVIATIONS AND ACRONYMS	8
SECTION 4. PROJECT ORGANIZATION	10
4.1 External Interfaces.....	10
4.2 Roles and Responsibilities	10
4.3 Internal Structure.....	11
4.4 Project Roles and Responsibilities.....	13
SECTION 5. MANAGEMENT PROCESS.....	15
5.1 Start-up.....	15
5.1.1 Estimation.....	15
5.1.2 Staffing.....	15
5.1.3 Resource Acquisition	15
5.1.4 Staff Training.....	15
5.2 Work Planning	15
5.2.1 Work Activities	15
5.2.2 Schedule Allocation.....	16
5.2.3 Resource Allocation	17
5.2.4 Budget Allocation	17
5.3 Control Plan	19
5.3.1 Requirements Control.....	20
5.3.2 Schedule Control.....	21
5.3.3 Budget Control.....	22
5.3.4 Quality Control	24
5.3.5 Project Reporting and Communication	24
5.3.6 Metrics Collection	25
5.4 Risk Management.....	25
5.5 Project Closeout	25



Department of Veterans Affairs

SECTION 6. TECHNICAL PROCESS	26
6.1 Process Model	26
6.2 Methods, Tools and Techniques	26
6.2 Project Infrastructure	27
6.3 Product Acceptance	27
SECTION 7. SUPPORTING PROCESSES	29
7.1 Configuration Management	29
7.2 Independent Verification and Validation	29
7.3 Documentation plan	29
7.4 Quality Assurance	30
7.5 PEER Reviews and Audits	30
7.6 Problem Resolution	30
7.6.1 TRB Membership	31
7.6.2 TRB Chairperson	32
7.7 Contractor Management	32
7.7.1 Contracting Process	32
7.7.2 Contractor Performance Monitoring	32
7.8 Process Improvement	33
7.8.1 Systems/Software Process Improvement Lead	33
7.8.2 Systems/Software Engineering Process Group (SEPG)	33
SECTION 8. ADDITIONAL PLANS	34
8.1 Logistics Engineering	34
8.1.1 System Performance	34
8.1.2 System Availability	34
8.1.3 Process Efficiency	35
8.1.4 Technical Effectiveness	35
8.1.5 System Effectiveness	35
8.1.6 System Ownership Cost	35
APPENDIX A. RE & CM MASTER SCHEDULE	36
APPENDIX B. RE & CM TRAINING PLAN	37
APPENDIX C. RE & CM MEASUREMENT PLAN	38
APPENDIX D. RE & CM PRODUCT ENGINEERING AND QUALIFICATION PROCESS	39
APPENDIX E. RE & CM QUALITY ASSURANCE PLAN	40
APPENDIX F. RE & CM CONFIGURATION MANAGEMENT PLAN	41
APPENDIX G. RE & CM RISK MANAGEMENT PLAN	42
APPENDIX G. RE & CM COMMUNICATIONS PLAN	43
TABLE OF FIGURES	
Figure 1: Project Management Functions	1
Figure 2: RE & CM Project External Organizational Interfaces	10
Figure 3: RE & CM Project Internal Organizational Structure	11
Figure 4: RE & CM Project Life Cycle Strategy	26



Department of Veterans Affairs

Figure 5: Components of System Operational Effectiveness	34
--	----

TABLE OF TABLES

Table 1: Contact Management Full Project Schedule and Budget	5
Table 2: Registration and Eligibility Full Project Schedule.....	5
Table 3: Programmatic Roles and Responsibilities	10
Table 4: Project Roles and Responsibilities.....	13
Table 5: One VA RE & CM Project Schedule Allocations	16
Table 6: Staff Resources by Development Phase	17
Table 7: One VA RE & CM Project Build Budget Allocation	17
Table 8: Budget By Fiscal Years (FY 2006 to FY 2008)*	18
Table 9: Management Control System Elements.....	19
Table 10: Primary Requirements Control Activities.....	20
Table 11: METHODS AND TOOLS.....	27
Table 12: RE & CM Project Documentation	29

PREFACE

The intended audience is all RE & CM stakeholders and all project team members. This Project Management Plan (PMP) will be used as a guide for the management of the Registration and Eligibility (R&E) and Contact Management (CM) projects. The plan, tailored from the IEEE Standard for Software Management Plans, IEEE Std 1058-1998, addresses such issues as budget, budget control, schedule, schedule control, staffing, risk management, configuration management, quality assurance, and project tracking measurements. The management, technical, and supporting processes comply with the guidance provided by Standard for Information Technology - Software Life Cycle Processes, IEEE/Electronic Industries Association (EIA) 12207 Series; Systems Engineering – System Life Cycle Processes, International Organization for Standardization (ISO)/International Electrotechnical Commission (IEC) 15288; or the Processes for Engineering a System, and Electronic Industries Alliance (EIA) Standard 632. This project will also adhere to compliance with ANSI/EIA 748 standard for reporting of performance metrics of cost and schedule as established by the Office of Management and Budget (OMB) for major IT initiatives.



SECTION 1. OVERVIEW

1.1 PROJECT MANAGEMENT CONTEXT

The following figure provides an abstract of the project management functions of Initiation, Planning, Control, Execution, and Close Out. As depicted in the figure, the Planning function includes the development of plans to facilitate both the Control Function and the Execution Function.

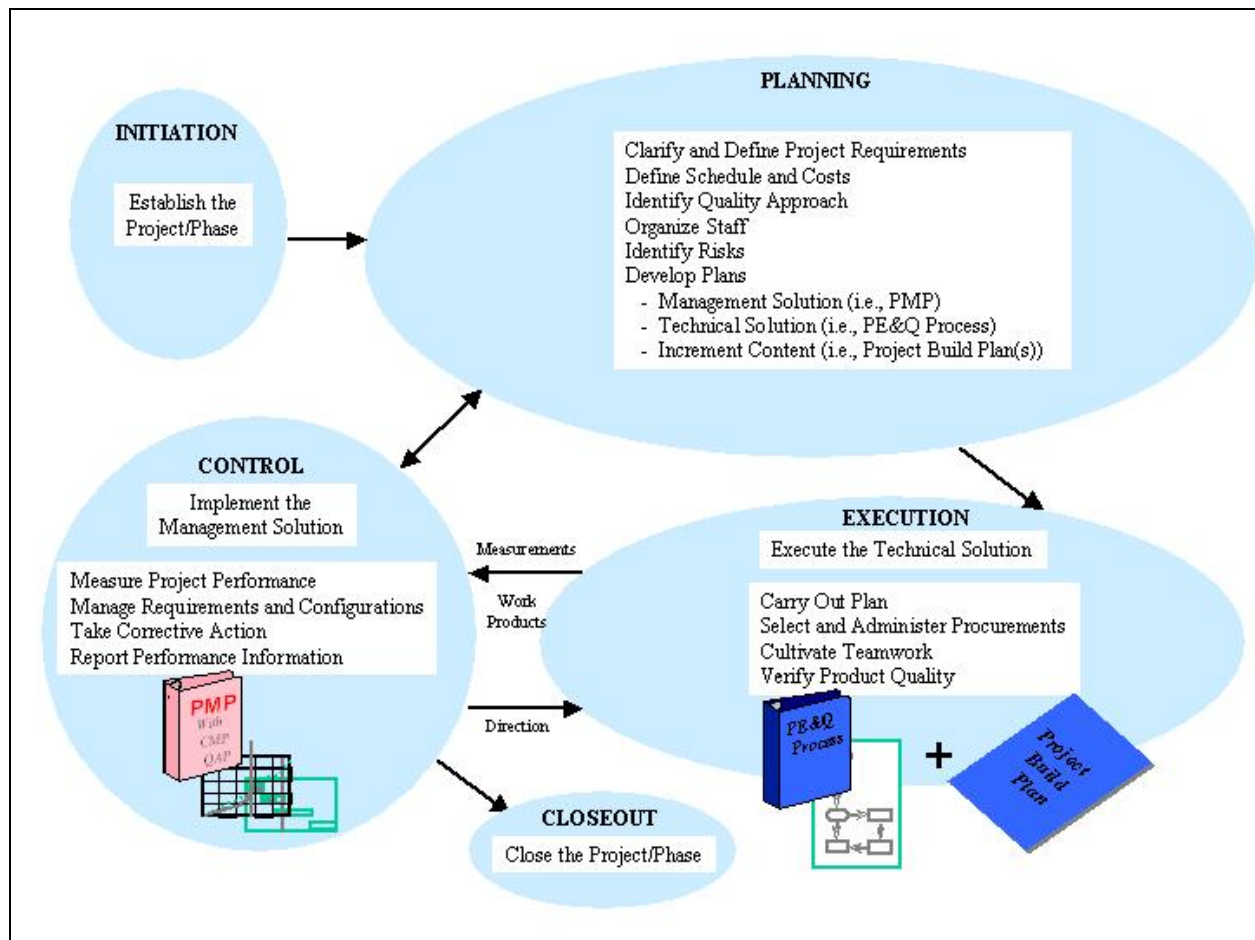


Figure 1: Project Management Functions



1.2 DOCUMENT STRUCTURE

This plan is organized as follows:

Section 1. Project Overview: This section provides an overview of the scope and objectives of the project, the project's assumptions and constraints, reference to the project deliverables, schedule and budget, and a description of the evolution of the plan.

Section 2. References: This section provides a list of all documents, policies, templates, processes, and other sources of information referenced in the plan.

Section 3. Definitions: This section contains the abbreviations and acronyms required to properly understand this planning document.

Section 4. Project Organization: This section identifies interfaces to organizational entities external to the project, the project's internal organizational structure, and defines roles and responsibilities for the project.

Section 5. Management Process: This section describes the planning, measurement, tracking, reporting, risk control mechanisms needed to provide management control over the technical processes and product quality, and appropriate project initiation and closeout procedures.

Section 6. Technical Process: This section describes the technical solution in terms of a process model and implementation methods, tools, and techniques to be used to develop the various work products, plans for establishing and maintaining the project infrastructure, and the product acceptance.

Section 7. Supporting Processes: This section describes the processes that are employed to facilitate control of technical processes and the overall product state. These include, but are not limited to, configuration management, verification and validation, documentation, quality assurance, reviews and audits, problem resolution, and contractor management, and methods to ensure continuous process improvement.

Section 8. Additional Plans: This section addresses the logistic support strategy to be applied to increase the system's operational effectiveness.

Appendices

Appendix A. RE & CM Master Schedule (Primavera)

Appendix B. RE & CM Project Training Plan

Appendix C. RE & CM Measurement Plan

Appendix D. RE & CM Product Engineering and Qualification Process

Appendix E. RE & CM Quality Assurance Plan

Appendix F. RE & CM Configuration Management Plan

Appendix G. RE & CM Risk Management Plan

Appendix H. RE & CM Communications Plan

1.3 EXECUTIVE SUMMARY

This document specifies the Project Management Plan (PMP) for the One VA Registration Eligibility (RE) and Contact Management (CM) system initiatives. These initiatives are a subset of the One VA initiative.

The One VA initiative will provide accurate, reliable, and consistent information to the Veterans Affairs (VA) business lines for benefit, health, contact and identification information for 24 million Veterans and



Department of Veterans Affairs

addresses the lack of a clearly defined and efficient enterprise environment for sharing this data. It will reduce duplicate DMDC data feeds, disparate application use (100+), integrate semi-shared and stand-alone databases and establish a common veteran information standard to share information between the Veterans Affairs (VA) business lines and the Department of Defense (DoD). Data will be shared across VA business lines and the DoD through the use of common services.

The One VA initiative will replace the numerous veteran registration processes currently in place across VA with a single automated process that permits veterans to register only once and in any location in order to apply for any and all VA benefits. In addition, it will provide a knowledge base of concise information about VA benefit programs and state veteran benefit programs, which can be used by case workers at VA contact centers as well as by veterans themselves inquiring over the internet or in VA offices.

1.3.1 Purpose, Scope, and Objectives

Purpose

The purpose of the RE and CM initiatives is to become a single point of registration, and a corporate-wide knowledge base for veteran identification. Specifically, the project will develop a single registration application process for veterans and their dependents and survivors to apply for VA benefits and services, and will provide a single knowledgebase for use by VA case workers and veterans in obtaining information regarding VA programs, benefits and regulations regarding eligibility issues. The ultimate goal of this project is to be the front end of a solution to address all forms of contact with the veteran.

These two initiatives are complementary, and will be integrated at the system level and driven by the System Integration Directorate PMO Project Charter and this document.

Scope

The scope of the One VA Registration and Eligibility/Contract Management Project can be found in the following documentation sources:

- One VA RE Program: Proposed Scope, 6/10/2005
- Contact Management White Paper, 9/12/2005

Objectives:

1. Provide a single authoritative source for Veteran Identification Information, within VA, which is based upon DoD Service Record information and is available to and useable by all VA business lines, as mandated by Congress (and in order to effect this change, consolidate, reconcile and normalize all data from DoD/DMDC, prior to its application to VA business systems).
2. Support Operation Seamless Transition, principally by obtaining and disseminating auxiliary Veteran service history data from DoD/Defense Manpower Data Center (DMDC) and making it available to the Administrations as is appropriate to their needs.
3. Create a capability, which when implemented within VA business lines, will permit a Veteran to enter, change or correct his/her personal information at one VA contact center, and subsequently have that information available at all other contact centers, within all VA business lines and at all separate VA facilities, without requiring the Veteran to resubmit the information.



Department of Veterans Affairs

4. Develop a Veteran Identification Repository requirements in an open, collaborative setting, utilizing broadly based facilitated working groups consisting of VA Administration business stakeholders, in order to bring field-unit and Administration expertise (in capturing data element scope, definition and applicability, business rule knowledge and Veteran contract expertise) into the final design.
5. To provide enhanced Veteran contact center capabilities, including providing a uniform, comprehensive knowledge base for consistent information delivery to Veterans through all contact centers and across all business lines.

1.3.2 Assumptions and Constraints

1. Adequate funding and resources will be available for the project.
2. The One VA Contact Management solution must leverage the One VA wide-area network, the VA Cyber Security infrastructure the VA-DMDC (DEERS/DIMHRS) data interface and the One VA Veteran Identification Repository. These elements are the project's underlying supporting technologies.
3. The project must be standards-compliant (508, HIPAA, HL7) so that the system can be certified and accredited for production operations. Data quality will improve as a result of having the same authoritative source of veteran registration data available and used by all business lines.
4. This project must conform with federal laws and regulations such as the Government Paperwork Elimination Act (GPEA), the Health Insurance Portability and Accountability Act (HIPAA), Government Performance and Results Act of 1993(GPRA), Government Management Reform Act (GMRA); Paperwork Reduction Act of 1995, Prompt Payment Act (PPA), the Clinger-Cohen Act and other applicable laws dealing with security, privacy and confidentiality.
5. This project must support the strategic goals from the President's Management Agenda by creating the opportunity for working on cooperative initiatives between VA and DoD and in particular, the primary goal of Expanded E-Gov by creating a modern, highly interoperable information system within VA that connects people, business processes and departments across the enterprise to present a One VA face to veterans and their families.
6. The One VA Contact Management supports the President's Management Agenda Goal of Strategic Management of Human Capital by supporting the department's shift to a more customer-centric approach that enhances services for veterans from improved business processes, consistency of information and greater accessibility and efficiency.

1.3.3 Project Deliverables

The deliverables for each increment of the RE & CM initiatives will be identified before the master schedule is built

1.3.4 Master Schedule and Budget Summary

Contact Management Schedule and Budget



Department of Veterans Affairs

Table 1: Contact Management Full Project Schedule and Budget

	Description of Milestone	Schedule Start Date	Schedule End Date	Schedule Duration (Days)	Planned Cost (\$M)	Funding Agency	Include in PMB (Yes/No)
1	Project Management	Oct 1, 2002	Sep 30, 2007	1,200	2,500,000.000	VA	
2	Technology Deployment & Integration	Oct 1, 2002	Sep 30, 2005	720	5,000,000.000	VA	
3	Line of Business Integration	Oct 1, 2002	Sep 30, 2007	1,200	6,310,000.000	VA	
4	NCC Operations	Oct 1, 2002	Sep 30, 2007	1,200	40,000,000.000	VA	
Completion Date:		Sep 30, 2007	Total Cost Estimate at Completion:			53,810,000.000	
Completion Date: (Calculated)			Total Cost Estimate at Completion: (Calculated)				

Registration and Eligibility Schedule and Budget

Table 2: Registration and Eligibility Full Project Schedule

	Description of Milestone	Schedule Start Date	Schedule End Date	Schedule Duration (Days)	Planned Cost (\$M)	Funding Agency	Include in PMB (Yes/No)
1	Planning & Program Admin	Oct 1, 2002	Sep 30, 2008	1,500	11,650,000.000	VA	
2	Prototype Development	Oct 1, 2002	Aug 1, 2003	300	3,175,000.000	VA	
3	Deployment	Oct 1, 2003	Sep 30, 2008	1,200	8,475,000.000	VA	
4	Full Acquisition	Oct 1, 2002	Sep 30, 2008	1,500	52,735,000.000	VA	
5	Prototype Development	Oct 1, 2002	Aug 1, 2003	300	1,200,000.000	VA	
6	Deployment	Oct 1,	Sep 30,	1,200	51,535,000.000	VA	



Department of Veterans Affairs

		2003	2008				
7	Maintenance	Oct 1, 2003	Sep 30, 2008	1,200	34,500,000.000	VA	
Completion Date:		Sep 30, 2008	Total Cost Estimate at Completion:			128,770,000.000	
Completion Date: (Calculated)			Total Cost Estimate at Completion: (Calculated)				

1.3.5 Evolution of the Plan

The purpose of this PMP is to provide a documented plan for the management and control of the organizational, developmental, and supporting processes necessary to the successful implementation of the RE & CM initiatives. To that end the PMP is considered to be a living document. As such, it is subject to revision based on programmatic events as typified by a sudden change in project or product requirements, the encounter of risk events, or unexpected deviation from the planned course of action. Revisions to the plan will follow the RE & CM Configuration Management Plan, (Reference Appendix F).



SECTION 2. REFERENCES

2.1 STANDARDS AND DOCUMENTS

The following standards and documents listed below are referenced in this document:

Institute of Electrical and Electronics Engineers (IEEE) Standard for Software Project Management Plans, IEEE Standard 1058-1998, IEEE, December 1998

Standard for Information Technology - Software Life Cycle Processes, IEEE/Electronic Industries Association (EIA) 12207 Series, IEEE/ EIA, March 1998

Systems Engineering – System Life Cycle Processes, International Organization for Standardization (ISO)/International Electrotechnical Commission (IEC) 15288, ISO/IEC 15288:2002(E), Nov 2002

Processes for Engineering a System, Electronic Industries Alliance (EIA) Standard 632, ANSI/EIA-632-1998, January 1999

ANSI/EIA 748 Standard-A, Project Management Body of Knowledge, January 2005

VA Standards and Documents:

One VA Project Management Guide, Office of Information and Technology, Version 2.0, March 3, 2005.

2.2 DEVIATIONS AND WAIVERS

Deviations and/or waivers from the Project's documented standard processes or procedures will be defined in the individual build plans as necessary and approved by agreement between the IPT project manager(s) and the SID Program Manager or delegated representative.



SECTION 3. ABBREVIATIONS AND ACRONYMS

The abbreviations and acronyms used throughout this document are listed below:

ACWP	Actual Cost of Work Performed
AD	Architectural Design
ANSI	American National Standards Institute
BCC	Black Controller CSCI
BCWP	Budgeted Cost of Work Performed
BCWS	Budgeted Cost of Work Scheduled
CAMS	Capital Asset Management System
CCB	Configuration Control Board\Change Control Board
CDRL	Contract Data Requirements List
CI	Configuration Item
CM	Contact Management
CM	Configuration Management
CMMI	Capability Maturity Model Integration
COTS	Commercial Off The Shelf
COTR	Contracting Officer's Technical Representative
CSCI	Computer Software Configuration Item
DBDD	Database Design Description
DCR	Document Change Request
DD	Detailed Design
DID	Data Item Description
DMDC	Defense Manpower Data Center
EIA	Electronics Industries Alliance
EOC	Executive Oversight Committee
GMRA	Government Management Reform Act
GPEA	Government Paperwork Elimination Act
GPRA	Government Performance and Results Act of 1993
HIPPA	Health Insurance Portability and Accountability Act
IEEE	Institute of Electronics and Electrical Engineers
IPT	Integrated Project Team
IPR	In-Process Review
IR	Information Repository
IRS	Interface Requirements Specification
IV&V	Independent Verification and Validation
JEC	Joint Executive Council
MIL-STD	Military Standard
OBS	Organizational Breakdown Structure
OI&T	Office of Information and Technology
OMB	Office of Management and Budget



Department of Veterans Affairs

OT&E	Operational Test and Evaluation
P/CR	Problem/Change Report
PE&Q	Product Engineering and Qualification
PM	Project Manager
PMP	Project Management Plan
PPA	Paperwork Reduction Act of 1995, Prompt Payment Act
PRP	Procurement Requirements Package
QA	Quality Assurance
RE	Registration and Eligibility
RTM	Requirement Traceability Matrix
SCCB	System Configuration Control Board
SCM	Software Configuration Management
SCR	System Change Request
SDD	Software Design Description
SDF	Software Development File
SDL	Software Development Library
SDLC	Systems Development Life Cycle
SEN	Software Engineering Notebook
SEPG	Software Engineering Process Group
SEPG	Systems Engineering Process Group
SID	System Integration Directorate
SMP	Software Measurement Plan
SOE	System Operational Effectiveness
SOW	Statement of Work
SPA	Software Process Assets document
SPI	Systems Process Improvement
SPP	Software Project Planning
SRS	Software Requirements Specification
STP	Software Test Plan
SQA	Software Quality Assurance
T&E	Test and Evaluation
TRB	Technical Review Board
VA	Department of Veterans Affairs
VPN	Virtual Provider Network
WBS	Work Breakdown Structure



SECTION 4. PROJECT ORGANIZATION

4.1 EXTERNAL INTERFACES

External organizational interfaces for the RE & CM initiatives are defined in Figure 2.

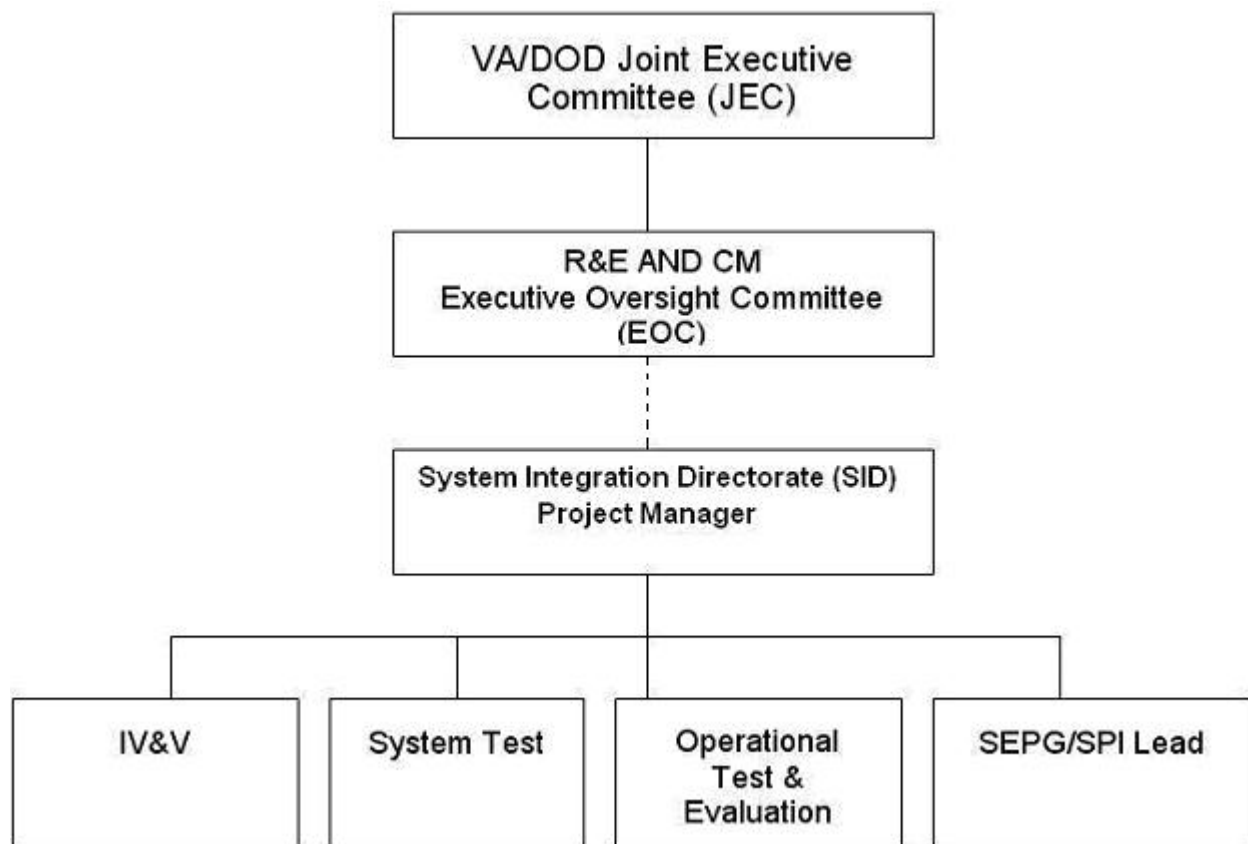


Figure 2: RE & CM Project External Organizational Interfaces

4.2 ROLES AND RESPONSIBILITIES

The responsibilities of the organizational entities and key positions shown in Figure 2 are defined in the table below.

Table 3: Programmatic Roles and Responsibilities

POSITION	ROLES/RESPONSIBILITIES
VA/DoD Joint Executive Committee	A coordinating body for interfaces between the VA and DoD.
Executive Oversight Committee (EOC)	An OI&T executive body charged with oversight of IT development, including RE & CM.
System Integration Directorate Project Manager	A VA OI&T manager assigned responsibility to direct RE & CM



Department of Veterans Affairs

POSITION	ROLES/RESPONSIBILITIES
	system acquisition (hardware/software).
IV&V (Independent Verification and Validation)	A Program-level organization charged with the responsibility of providing resources and management for IV&V functions
System Test	The organization responsible for independent system testing
Operational Test and Evaluation	An independent organization responsible for the evaluation of a system's ability to meet the objectives of RE & CM
SEPG/SPI Lead	The group and team member responsible for continuous process improvement

4.3 INTERNAL STRUCTURE

The figure below identifies the System Integration Directorate organizational infrastructure.

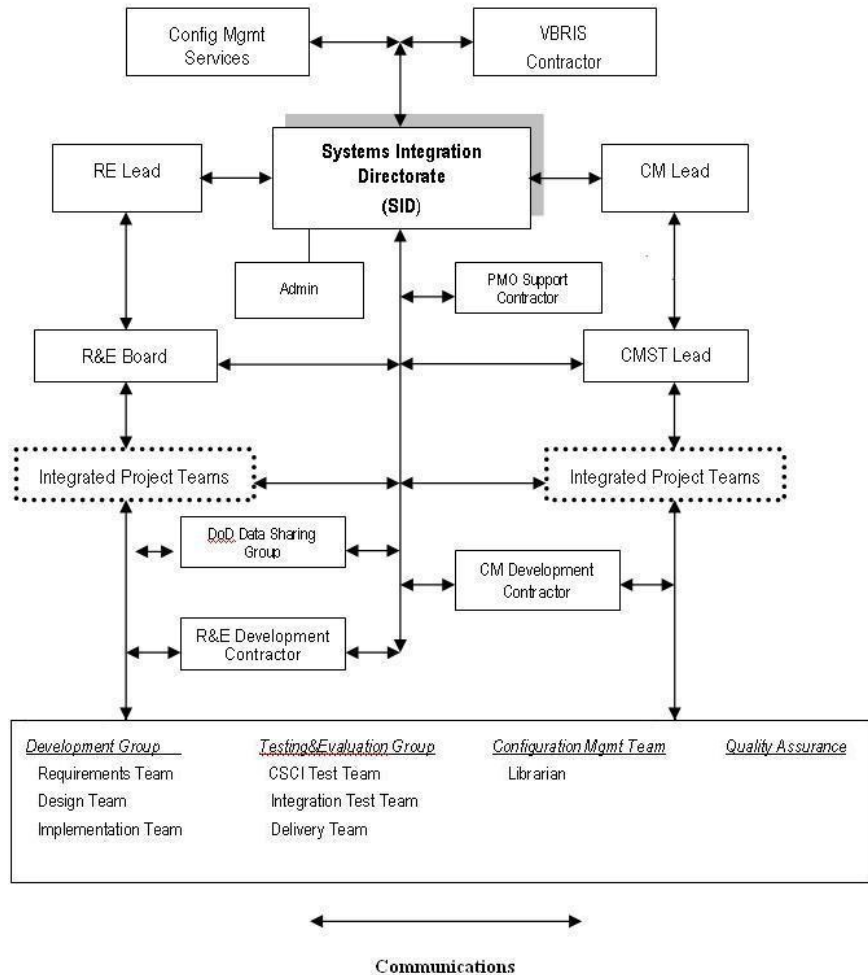


Figure 3: RE & CM Project Internal Organizational Structure

4.3.1 The SID Project Manager



Department of Veterans Affairs

The SID Project Manager (PM) has full authority and is responsible and accountable for all aspects of the project.

4.3.1.1 Scope of Authority.

The SID PM is responsible for all issues within the SID organization, including contractors, and subcontractors. The SID PM's authority extends from initial planning through all aspects of the performance including technical direction of project personnel. The SID PM has full authority over the technical managers and direct access to the EOC to acquire and commit the necessary resources to meet the requirements of any or all work assigned. The SID PM exercises complete and final authority over contract activities in accordance with VA policies and procedures. The SID PM also has full authority over the contractors and implements this authority via formal contractual documents maintained by the OIT contract administrator and the respective Contracting Officer's Representative (COR).

4.3.1.2 Scope of Responsibility.

The SID PM is accountable to the EOC for the conduct of assigned projects including contractor efforts. The PM is the EOC Point-of-Contact for all issues related to the RE & CM projects. The SID PM directs the Administrative Office staff in the performance of assigned responsibilities.

4.3.1.3 Internal Responsibilities.

The SID PM is responsible for all technical, quality, cost and schedule aspects of the tasks assigned in the Statement of Work (SOW). The SID PM will establish and approve a schedule showing major activities needed to establish full RE & CM system capability. General responsibilities are listed below:

- a. Approve all cost and schedule-related planning documents.
- b. Approve all organizational work and WBS.
- c. Control or delegate control of all organizational resources.
- d. Provide oversight of budget allocated to the organization.
- e. Establish organizational policies.
- f. Appoint and evaluate all technical managers.
- g. Monitor and report all project performance including the approval of monthly progress reports and cost summary reports.
- h. Facilitate evaluation of trade-offs prior to major decisions and approve any deviations to approved plans.
- i. Assist group managers in choosing alternative courses of action to resolve problems.
- j. Identify project issues requiring formally documented decision analysis and resolution.
- k. Monitor and assure that all corrective actions are completed in the specified time.
- l. Assume the chair for the RE & CM Configuration Control Board (CCB)

4.3.1.4 External Responsibilities.

The SID PM is the principal point of contact for maintaining liaison with the EOC, coordinating and supporting meetings, conducting program reviews, supporting the COR, approving all deliverables and managing all subcontractor activity. The SID PM attends all program meetings and assures the attendance of the required key personnel. The SID PM must review and approve all deliverable work products at critical in-process junctures as well as at completion.



4.4 PROJECT ROLES AND RESPONSIBILITIES

The RE & CM project roles and responsibilities, including, but not limited to, the positions shown in Figure 3, are defined in the table below.

Table 4: Project Roles and Responsibilities

POSITION	ROLES/RESPONSIBILITIES
SID Project Manager	An OI&T manager responsible to the EOC for specific tasked system objectives. For the RE & CM project, the Project Manager acts as the LCCB chairperson and the Risk Manager. As Risk Manager, the PM coordinates risk identification, assessments, contingency planning, and the maintenance of the risk database.
Configuration Control Board (CCB)	The SID Project Manager's project-level configuration control board controlling the configurations. Interfaces with and is subordinate to the SCCB. The Project Manager serves as the CCB Chair.
Administrative Office	The SID Project Manager's administrative and financial support staff whose responsibilities include budget tracking, purchasing, and various contract items.
Contracting Officer's Representative (COTR)	Office responsible for compliance of RE & CM contracts to VA OIT acquisition regulations. Performs contract oversight.
DoD Data Sharing Group	The organization responsible for supplying the VA with specified data to support the R&E aspect of the project.
R&E Development Contractor	The contractor is responsible for the full lifecycle development of the R&E portion of the RE & CM system initiative.
CM Development Contractor	The contractor is responsible for the full lifecycle development of the CM portion of the RE & CM system initiative.
Configuration Management Services Contractor	The SIDS Configuration Management Group assists with the implementation of configuration management best practices for RE & CM.
VBRS Contractor	The Veterans Benefits Reference System contractor is responsible for publishing the System via the World Wide Web to provide self-service for the Veteran.
SID PMO Support Contractor	The contractor is responsible for providing professional project management consulting services and deploying best practices for software development per the SEI CMMI. In addition, the contractor will perform IV&V for selected project deliverables.
Technical Managers	Collective name for the Project Manager's technical supervisory team comprised of the Development Manager, T&E Manager, CM Manager, and QA Manager.
Technical Review Board (TRB)	A working group chartered to resolve both programmatic and technical issues.
Development Manager	An organizational technical manager responsible for product development, who reports to the Project Manager.



Department of Veterans Affairs

POSITION	ROLES/RESPONSIBILITIES
Development Group	Collective name of the engineering staff responsible for RE & CM product development.
Requirements Team	Staff responsible for the management of the RE & CM requirements database.
Design Team	Staff responsible for the architecture and design.
Implementation Team	Staff responsible for code, and/or reuse component selection, and unit test.
Test and Evaluation (T&E) Manager	An organizational technical manager, responsible for CSCI and Integration T&E, who reports to the Project Manager.
T&E Group	Collective name of the engineering staff responsible for CSCI integration and testing.
CSCI Test Team	Engineering staff responsible for internal CSCI Testing.
Integration Test Team	Engineering staff responsible for internal CSCI/Hardware Configuration Item (HWCI) Testing.
Delivery Team	Engineering staff responsible for on-site deliveries, training, and testing.
Configuration Management (CM) Manager	An organizational technical manager responsible for CM, who reports to the Project Manager.
CM Group	Collective name of the engineering staff responsible for CM functions.
CM Specialist	Member of engineering staff who is keeper of document and program baselines (check in/out)
Quality Assurance (QA) Manager	An organizational technical manager, responsible for QA functions, that reports to the EOC.
QA Group	Collective name of the engineering staff responsible for QA functions.



SECTION 5. MANAGEMENT PROCESS

5.1 START-UP

The SID Project Manager initiates the project tasking for each incremental build of the RE & CM systems. The following sections specify the estimation plan, staffing plan, resource acquisition plan, and training plan for the projects.

5.1.1 Estimation

To develop RE & CM system build schedules, estimates are captured by using a combination of manual and automated tools, including but not limited to Primavera (TeamPlay), MS Project, MS Excel and other government COTS products as needed. The staffing requirements for each task are abstracted from a macro estimate and partitioned to the detailed entries of the Master Schedule (Reference Appendix A). Start and duration times, together with prerequisite and other timing data, are extracted from the estimate and input to the Microsoft Project and/or Primavera plans to generate schedules. The resulting schedules are then analyzed for reasonableness to ensure that they fit into a compliant overall schedule. Results that are determined to be non-compliant are revised and then input back into the estimating process.

5.1.2 Staffing

Staffing for the RE & CM project will be comprised of a mix of VA personnel currently in place and contractor personnel acquired in accordance with policies, rules, and regulations for a support contract. Overall staffing requirements and their allocation are defined paragraph 5.2.3.

5.1.3 Resource Acquisition

Non-staff resource requirements and the means of acquisition are per VA regulations.

5.1.4 Staff Training

Personnel assigned to the RE & CM projects are required to complete, or waive, technical training to enable them to carry out their assignments proficiently as determined and coordinated by the Training Manager. In addition, personnel newly assigned to the organization are required to familiarize themselves with both the project and the common processes used to support the projects. Reference Appendix B.

5.2 WORK PLANNING

The following paragraphs provide a working management plan for the acquisition of the RE & CM system.

5.2.1 Work Activities

The WBS for the RE & CM initiatives is contained in Appendix A. The WBS identifies the needed tasks, resource allocations, and cost estimates. The individual builds have their own supporting project plans that provide roll-up data to the Integrated Master Schedule (IMS) in Appendix A. Issues requiring formally documented decision analysis and resolution are entered as discrete WBS tasks to ensure tracking. Events requiring formally documented decision analysis include decisions on architectural design trade-offs, supplier selection, resolution of risk issues, commercial off-the-shelf product selection, support tool selection, and make-or-buy decisions. The project manager specifies the decision analysis and resolution events.



5.2.2 Schedule Allocation

The table below identifies systems development life cycle activities. Each step will be addressed in more detail in the build plan identifying the individual build's requirements, schedule, resources, and acceptance criteria.

Table 5: One VA RE & CM Project Schedule Allocations

▲ Step 0: Concept Definition

Program	Concept Definition		Milestone 0 Project Initiation Approval
	Start Date	Finish Date	
RE			
CM			

▲ Step 1: Concept Development

Program	Concept Development		Milestone 1 Prototype Development Approval
	Start Date	Finish Date	
RE			
CM			

▲ Step 2: System Design and Prototype

Program	System Design and Prototype		Milestone 2 System Development Approval
	Start Date	Finish Date	
RE			
CM			

▲ Step 3: System Development and Testing

Program	System Development and Testing		Milestone 3 System Deployment Approval
	Start Date	Finish Date	
RE			
CM			

▲ Step 4: System Integration

Program	System Integration		Milestone 4 System Integration Approval
	Start Date	Finish Date	
RE			
CM			



Department of Veterans Affairs

▲ Step 5: System Deployment

Program	System Deployment		Milestone 5 System Deployment Approval
	Start Date	Finish Date	
RE			Not Applicable
CM			Not Applicable

▲ Step 6: System Operation (including System Disposal)

Program	System Operations		Milestone 6 Post Implementation Review
	Start Date	Finish Date	
RE			
CM			

5.2.3 Resource Allocation

Required staffing allocations by development phase are defined in the table below. The table provides guidance for identified resource and staff allocations for the overall project. Facilities resources, including floor space, lab configuration, hardware, and tool requirements are defined in Section 6.3 Infrastructure Plan.

Table 6: Staff Resources by Development Phase

Labor Category	Step 0	Step 1	Step 2	Step 3	Step 4	Step 5
Project Manager						
Systems Engineer						
Hardware Engineer						
Software Engineer						
CM Specialist						
QA Specialist						
Senior Test Engineer						
Test Engineer						
Facilities Administrator						
Hardware installation specialist						
Subtotals						

5.2.4 Budget Allocation

The table presents the One VA RE & CM project budget and allocates the funding to the individual projects and their development activities.

Table 7: One VA RE & CM Project Build Budget Allocation

Project	Step and Description	Budget (K\$)	Total
---------	----------------------	--------------	-------



Department of Veterans Affairs

RE	Step 0 – Concept Definition	
RE	Step 1 – Concept Development	
RE	Step 2 – System Design and Prototype	
RE	Step 3 – System Development and Testing	
RE	Step 4 – System Integration	
RE	Step 5 – System Deployment	
RE	Step 6 – System Operation	\$ _____
Subtotal		
CM	Step 0 – Concept Definition	
CM	Step 1 – Concept Development	
CM	Step 2 – System Design and Prototype	
CM	Step 3 – System Development and Testing	
CM	Step 4 – System Integration	
CM	Step 5 – System Deployment	
CM	Step 6 – System Operation	\$ _____
Subtotal		
Project Total		

Table 8: Budget By Fiscal Years (FY 2006 to FY 2008)*

Fiscal Year		1 st QTR	2 nd QTR	3 rd QTR	4 th QTR	Year Total
2005	RE	\$000.00 M	\$000.00 M	\$000.00 M	\$000.00 M	
	CM	\$000.00 M	\$000.00 M	\$000.00 M	\$000.00 M	
2006	RE	\$000.00 M	\$000.00 M	\$000.00 M	\$000.00 M	
	CM	\$000.00 M	\$000.00 M	\$000.00 M	\$000.00 M	
2007	RE					
	CM					
2008	RE					
	CM					

***Note: Quarterly Budget Allocation(s) will be determined by the SID Project Manager.**

Program	FY 2005	FY 2006	FY 2007	FY 2008	Total
RE					



Department of Veterans Affairs

CM					
Total					

5.3 CONTROL PLAN

The RE & CM Executive Oversight Committee (EOC) consisting of business and technical executives from VBA, VHA, NCA, and OI&T provides direction to the projects through formally established plans of action and milestones, memoranda, and project management tools as they are developed and made available to the project. The SID project managers provide current status to the EOC through reviews, audits, reports, and working interchanges established for the program. The key factors that contribute to the management of the projects are the processes of planning, scheduling, performance measurement, risk mitigation, variance analysis, and corrective action. Under the direction of the SID project manager, IPT leads develop detailed plans based on established work assignments for specific projects. The Primavera Team Play tool and MS Project are used to document and track the work against major project milestones and provide work performance measurement against costs incurred.

To ensure the necessary level of tracking and oversight and the application of the VA Project Management Guide, the RE & CM Project Measurement Plan (SMP) was developed (Reference Appendix C). The SMP includes periodic reviews, monthly status reports, and audits. The IPT project managers conduct monthly reviews to assess the risks, to initiate risk analysis, and to establish risk mitigation methods. Quality Assurance's (QA) function is to ensure that these transactions are fully recorded and traceable through the project life. Deviations from the baseline cost and schedule data are subjected to variance analysis. Corrective action items are documented for each significant variance. Corrective action items are established, logged, and tracked until successfully resolved. Directives are issued through the formal planning, scheduling, and communications media.

A collection of project management tools permit cost, schedule, performance and quality to be reviewed at any level. The following table identifies the primary tools that will be employed.

Table 9: Management Control System Elements

Tool	Description	Production Control	Resource Mgmt	Cost Mgmt	Schedule Mgmt
Microsoft Project	Plans/Tracking		x	x	x
Primavera	Plans/Tracking		x	x	x
Microsoft Excel	Plans/Tracking		x	x	x
Microsoft Powerpoint	Documentation	x	x	x	x
Microsoft Word	Documentation	x	x	x	x
Microsoft Access	P/CR and SCR Tracking	x			
Microsoft Outlook	E-Mail	x			
RTM	Requirements Mgmt	x			
Dimensions	Configuration Mgmt	x			



5.3.1 Requirements Control

The Access Systems, Inc. support team is responsible for the drafting the One VA RE & CM requirements control processes, and enforcing them. The project will use Serena's RTM Workshop 5.0 to perform the following tasks:

- Define baseline and manage versions/changes** – Requirements will be defined, allocated, and baselined. All the requirements baseline data and a history of the changes made to every requirement that explain previous decisions (and allow the reversion to a previous version of a requirement if necessary) will be entered and recorded in the RTM tool. All proposed changes to the requirements shall follow the configuration management process and procedures and unique identifiers for each requirement and product numbering will be established following the configuration management process.
 The requirement bi-directional traceability matrices will be built for the following major documents: (1) Software Requirements Specification (SRS), (2) Interface Requirements Specification (IRS), (3) Software Design Description (SDD), and (4) Software Test Plan (STP).
- Store requirements attributes** – The following attributes about each requirement should be stored in the RTM tool: date created, version number, author, person responsible, origin or rationale, release number, status, priority, stability, and risk.
- Link requirements to other system elements** – The tracking of individual requirements to other system components will be used to help ensure that the project teams do not inadvertently overlook any requirements during implementation. For example, when analyzing the impact of a change proposed in a specific requirement, the traceability links can be used to evaluate whether the change affects the other system elements.
- Track status weekly** – The status of each requirement will be tracked and reported on a weekly basis during development to support overall project status tracking. If the RE & CM project manager knows that 55% of the requirements allocated to the next release have been implemented and verified, 28% are implemented but not verified, and 17% are not yet fully implemented, then he or she has good insight into project status.
- Control access** – The SID PMO support team will have read/write access to enter the baseline requirements data, requirement analysis, and subsequent requirements definition into the database, and produce requirements traceability matrices. The SID PM and IPT leads will have read and write access to perform and document requirements analysis. All project team members will have access to view all of the requirements and submit/respond to requirements issues for discussion via the RTM tool.
- Communicate with stakeholders** – All team members should discuss requirements issues via the RTM tool so that when a new discussion entry is made or a requirement is changed, the affected individuals will be notified immediately.

The following table summarizes the primary requirements control activities.

Table 10: Primary Requirements Control Activities

Major Tasks	Primary Activities		
	PM and IPT Leads	All RE & CM Team	PMO Support Team
Versions/changes control	1. Ensure integrity of requirements data and traceability	Define, allocate and baseline requirements	1. Input the requirements baseline data



Department of Veterans Affairs

	matrices. 2. Perform requirement analysis		2. Record a history of the changes
Requirements attributes	Determine what attributes to be stored.	Provide attribute inputs.	Record attributes for each requirement in RTM.
Requirement linkage	Provide inputs and oversight.	Provide inputs.	1. Link and track individual requirements to other system components. 2. Analyze the impact of proposed changes.
Requirement status	1. Review weekly requirements status report. 2. Request ad-hoc status report on each requirement. 3. Use the weekly status tracking report to assess overall project progress.	Review requirements status reports.	1. Track and provide the status of each requirement one a weekly basis. 2. Generate ad-hoc requirements status reports.

5.3.2 Schedule Control

The following paragraphs define the management approach for schedule control of the RE & CM Projects.

5.3.2.1 Schedule Tracking.

Progress is charted on a weekly basis. Schedule performance data is generated at the task level and compared to the proposed schedule. Reports are generated that provide data on performance-to-date and projected future performance. In addition, deviations of both current and future milestones from proposed milestone dates are flagged. The actual start dates, completion dates, task completion percentages based on earned value algorithms, and actual dollar amounts expended on each task are entered into the Primavera plan for each product component and the project overall.

5.3.2.2 Schedule Performance Reports.

Schedule status information is measured against the required schedule dates, and reports on performance-to-date and projected future milestone dates are made. Deviations of "to-date" and "future-milestone-dates" from "required-dates" are flagged. Using Primavera for each product component, the SID PMO generates variance analysis reports by comparing Actual Cost of Work Performed (ACWP), Budgeted Cost of Work Scheduled (BCWS), Budgeted Cost of Work Performed (BCWP), and Budget at Completion (BAC).

5.3.2.3 Schedule Reviews.



Department of Veterans Affairs

QA reports and Configuration Management (CM) status accounting reports are reviewed in relationship with the schedule performance reports at multiple detail levels and timing intervals to provide management early visibility into potential schedule problems and/or schedule risks.

At each review level, schedule problems and/or risks are identified. If an actual problem (schedule variance) occurs, a problem resolution analysis is made to include: problem severity, schedule impact (domino effect), possible resolutions, and risk associated with each alternative.

Depending upon the reviewer's authority level and the nature of the required corrective action, the reviewer either directs corrective action or recommends corrective action to a higher authority level. This process applies to all contractor activities as well.

5.3.2.4 Progress Variance Monitoring.

Actual progress can differ from the planned progress for many reasons. The technical managers have the responsibility to identify schedule deviation causes and trends at the task level and correct the deviations. Deviations that are beyond a technical manager's capabilities to resolve are brought to the PM's attention.

5.3.2.5 Progress Variance Resolution.

Once a schedule variance is identified and quantified, management has several options from which to choose for deviation resolution. Depending on the cause of the deviation, the action may be resource reallocation, rescheduling the task or set of tasks, or correcting a performance problem.

5.3.2.6 Follow-Up on Corrective Action.

Primavera is used to both identify the initial schedule deviation and to analyze the corrective action results. Corrective action items are closely monitored to ensure that they are effectively recovering the schedule variance before milestones or the master schedule is jeopardized.

5.3.3 Budget Control

The following paragraphs define the management approach for budget control of the RE & CM initiatives.

5.3.3.1 Cost Management.

To ensure that the PM has the control necessary to accomplish the project objectives, the Administrative Office is assigned total budget tracking responsibility. The PM delegates specific cost management duties to his Administrative Office staff while retaining review and approval authority for all cost-related efforts.

The primary building block within the methodology is the WBS as detailed in the project's Primavera Project Plan. The cost estimating tool (TBD) is used for the cost estimating process while Primavera is used for tracking the project costs.

Once a valid cost baseline is established, detailed schedules are utilized to provide visibility and to be the basis for establishing the cost of work performed. This determination is supplied monthly to establish measurement points for cost and schedule adherence. To ensure immediate and appropriate attention, cost and schedule variances are automatically triggered for review in the integrated review process.

5.3.3.2 Methods to Ensure Cost Adherence.

Management of costs and risks is a focal point of the cost adherence plan. A comprehensive set of processes, tools, and practices is coupled with contingency planning to ensure that costs and risks are closely monitored and controlled.



5.3.3.3 Cost Control.

Cost management is applied tools to track and measure the cost of work being performed. Deviations are highlighted for immediate management attention. IPT Project Managers employ input in the form of cost and completion percentages via monthly management reports to develop a BCWP. This is a measure of budget adherence that is used to determine where management attention must be focused.

5.3.3.4 Contractor Cost Control.

Cost management practices for contractors include formal methods for monitoring and controlling contractor cost performance and minimizing risk. Specific contractor tasks are identified and are detailed in the appropriate Primavera project plan. Enforced flow-down of technical, schedule, and contractual requirements are incorporated into individual statements of work in each delivery order. Contract management has been given the dual responsibility of ensuring that 1) lines of communication remain open for the exchange of information and 2) negotiated agreements are not compromised.

The RE & CM Project is a review and reporting system that requires contractor evaluation and is consistent with contracting requirements. A monthly contractor's status report including any variances in cost, schedule, or technical performance will be included in the monthly program reviews. The same problem identification and resolution procedures used by the CM Group are extended to the subcontractor, to ensure management visibility and to guarantee that proper and prompt attention is given to risk management and reduction on a program-wide basis.

The technical managers manage the contractor costs directly. They are chartered with the responsibility of monitoring contractor costs and schedules for adherence to budget. They will report directly to the PM and the COR, thus ensuring that the SID PM will have immediate insight into all contractor cost control.

5.3.3.5 Cost Variance Measurement.

Primavera is the vehicle for tracking cost variances. At the start of a project, or a baseline revision, WBS levels are entered into project plan and baselined to form the framework for cost-variance measurement.

Milestones are monitored, and noted variances reviewed to determine program impact and establish corrective action items. Corrective action items are tracked to completion. Out-of-tolerance variances are assessed to the responsible technical manager and reviewed with the SID PM. Internal cost and schedule reviews are held for the duration of the effort. Reviews cost and schedule variances, with variances determined by comparing elements of BCWP against ACWP and BCWS. If a variance reaches a predetermined threshold, as defined in the risk management database, it is brought to the immediate attention of the responsible technical manager for assessment and formulation of corrective action. Threshold limits are set by the PM and documented in the related risk management database entries and adjusted, as appropriate, based on trend analysis and risk identification. Variances, either positive or negative, as defined by the OMB Thresholds for cost and schedule variance are raised for analysis.

5.3.3.6 Cost Variance Corrective Action.

Periodically, the PM conducts a formal program review to communicate costs, schedule, and status. Variances are graphed and utilized to describe specific cost variances (positive or negative) that are greater than PM's established thresholds for the task-to-date. For each variance, the PM either approves the recommended corrective action or directs that further analysis/planning is to be done and reported on in a timely manner. All cost variances are immediately acted upon before they are allowed to become significant.



Department of Veterans Affairs

Once a variance has been identified and quantified, the PM has a number of options from which he or she may choose to correct the problem.

In all cases, the PM maintains total control over the resolution of the problem. If either the problem or the corrective action taken constitutes a program risk, the risk is quantified, minimized as much as possible, and added to the risk management database along with its contingency actions.

5.3.4 Quality Control

The QA Group under the direction of the QA Manager provides the PM with the assurance that all quality and production control requirements are being accomplished. The QA Manager also provides oversight for the conduct of audits (e.g., Functional Configuration Audit/Physical Configuration Audit) and reviews to assure that all performance and contractual requirements are met and integrated into the deliverable baseline. In performing these duties, the QA Manager monitors adherence to all applicable policies, processes, procedures, and plans through the delegation of responsibilities to the QA Group. QA will be performed in accordance with the RE & CM Quality Assurance Plan in Appendix E.

5.3.5 Project Reporting and Communication

The following paragraphs define the management plan for ensuring the broadest communication of needed information for project coordination.

5.3.5.1 Electronic Media.

Project personnel will make appropriate and considerable use of e-mail and the RE & CM Virtual Private Network (VPN) site to assist in distribution and review of documents, memoranda, presentations, schedules, action items, and requests for information. The VPN is for "internal" use, and is distinct from the RE & CM Information Repository.

5.3.5.2 Meetings.

Project meetings will typically be multi-site meetings linked via telephone and Internet. Conference call capabilities will be provided to allow audio participation, and Internet data link capabilities will be provided to allow visual presentations.

NetMeeting software will allow any participant to control visual presentations visible to all meeting sites using the underlying Internet links. Meeting minutes will be recorded, and action items listed and tracked to completion.

5.3.5.3 Information Repository.

A project Information Repository (IR) maintained by the SID PMO provides a single secure location for reference documents, test reports, a reuse library, and related documentation. It is the formal location for delivery of the Information Repository to the end user.

5.3.5.4 Internal Reviews.

The projects hold In-Progress Reviews (IPRs) at least every third month for the purpose of monitoring internal progress towards milestones, reviewing problems encountered, presenting proposed resolutions, presenting near-term plans, reviewing risks and mitigation plans, and presenting a financial review using Earned Value data from Appendix A.

5.3.5.5 Status Reporting.



Department of Veterans Affairs

The RE & CM provides monthly progress reports to the Program Manager summarizing work completed, a financial report, issues, meetings and conferences attended, and upcoming calendar events.

5.3.6 Metrics Collection

The RE & CM SMP outlines standard measurements to be collected by task areas within the project. Measurement requirements specific to each build will be defined in the applicable Project Build Plan and will roll up as overall project's measurements for analysis.

5.4 RISK MANAGEMENT

The strategy is to develop a risk management database to support a continuous risk assessment process. The RE & CM projects will use the Risk Radar tool for recording risks, their analysis, mitigation and contingency actions. The database is placed under CM. The SID PM assumes the collateral duty as the Risk Manager for the project. The SID PM, in the role of Risk Manager, maintains the RE & CM Risk database, analyzes risk-related measurements, reviews individual database entries as needed at weekly status meetings with the technical managers, and holds a review of the database on quarterly schedule with the sponsor and other senior management as defined in Appendix A.

A detailed Risk Management Plan (RMP) appears in Appendix G.

5.5 PROJECT CLOSEOUT

A transition plan with the format and content defined by the VA Executive Oversight Committee (EOC), will be developed by the SID PMO support team to manage and control transition of the RE & CM projects to the designated VA System Development Life Cycle Operations Activity.



SECTION 6. TECHNICAL PROCESS

6.1 PROCESS MODEL

The VA's System Development Life Cycle (reference VA Project Management Guide for detail) is being tailored to the development of the RE & CM project. The following figure presents the fundamental process model employed by the RE & CM project team to develop the RE & CM system.

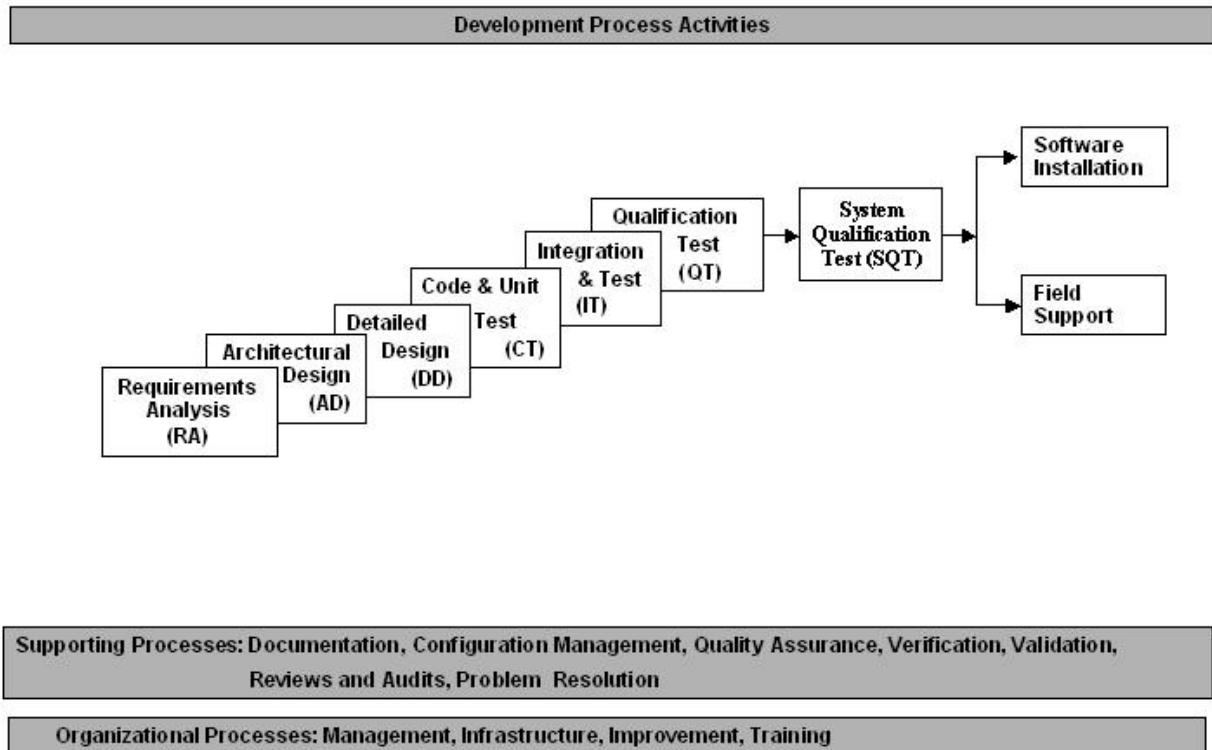


Figure 4: RE & CM Project Life Cycle Strategy

The flow of information and work products through the Development Process Activities is detailed in Appendix D. The activities of the Supporting Processes and Organizational Processes are as defined in this PMP.

6.2 METHODS, TOOLS AND TECHNIQUES

IPT leads will follow the phased development methodology that is specified in the VA Project Management Guide for the entire system development life cycle. The following specify tools and methodologies used during the RE & CM System Development Life Cycle (SDLC).



Table 11: METHODS AND TOOLS

Activities	Tool	Methodology/Standard
Requirements specifications	RTM tool	INCOSE standards
Allocation of functional requirements for each build	N/A	One VA Systems Integration Division's Configuration Control Board (SCCB)
System architecture	MS Word	
Interface design specifications	MS Word	CMMI guide
System design documentation	MS Word	
Source code	Oracle, C++	
Test plan	MS Word	
Test procedures, scripts, and results	Mercury TestDirector	
Deployment plan	MS Word	
Operation and Maintenance (O&M) Plan	MS Word	
Delivery of project deliverables	E-Mail	
Delivery of non-deliverable products	E-Mail	
Product Engineering and Qualification Process for R&E	To be provided by R&E contractor	To be provided by R&E contractor
Product Engineering and Qualification Process for CM	To be provided by CM contractor	To be provided by CM contractor

6.2 PROJECT INFRASTRUCTURE

Appendix B specifies the plan for establishing and maintaining the development and test environments. The resources addressed include the office and lab space, included workstations, local area networks, hardware/software tools, provisions for physical security, facilities management processes, and equipment maintenance contract data.

6.3 PRODUCT ACCEPTANCE

The RE & CM IPT leads will develop a series of tests (i.e. software qualification testing [SQT]) that demonstrate specified requirements and functionality is verified and validated. The SQT is the acceptance mechanism for the RE & CM developer's compliance.

The RE & CM SQT consists of complementary and progressive test phases. The master SQT Test Plan will be generated by the RE & CM team, under the direction of the SID PM, to address the planning for all levels of SQT. A test description will be generated for each product component, documenting the test procedures to be run to verify each requirement for that component using the Mercury TestDirector testing tool. A cross-reference matrix will be provided, using the project-wide requirements traceability



Department of Veterans Affairs

matrix to document the test description and the test result for each requirement. Test reports will be generated for each product component, summarizing the results of each product component tested.

Objective criteria for determining acceptability of the deliverable work products shall be proposed by the SID PM and a formal agreement of the acceptance criteria will then be signed by senior technical and business representatives from each administration at VA, including OI&T. Currently, the objective is to achieve a success rate of 90% of the total RE & CM requirements. The IPT lead is responsible for generating the appropriate test documentation, and the SID PMO support team is responsible for submitting them for appropriate configuration management control.



SECTION 7. SUPPORTING PROCESSES

7.1 CONFIGURATION MANAGEMENT

Reference Appendix F

7.2 INDEPENDENT VERIFICATION AND VALIDATION

Processes for the Independent Verification and Validation (IV&V) of the RE & CM project are the responsibility of the IV&V agent illustrated in Figure 2. The SID PM is responsible for the conduct of supporting analysis and resolution as required by the IV&V organization and/or the sponsor in response to issues raised by the IV&V agent.

Reference Appendix D

7.3 DOCUMENTATION PLAN

Defining the documentation requirements in terms of associated standards, size, and the required reviews is important to both planning and clarifying the acquisition process. Documentation is a key deliverable for the RE & CM system. Table 12 defines the RE & CM project's documentation plan. Documents related to the Development Process Activities of Figure 4 are referenced in Appendix D.

Table 12: RE & CM Project Documentation

Document Type	Format Standard	Estimated Page Count	Peer Review Type
Project Management Plan	PMP Template	50	Formal Inspection
Configuration Management Plan	SCM Plan Template	50	Formal Inspection
Quality Assurance Plan	SQA Plan Template	40	Formal Inspection
Master Schedule (Primavera)	Primavera Incremental Life Cycle Schedule Template	10	Technical Review
Measurement Plan	SMP Template	25	Formal Inspection
Training Plan	Training Plan Template	15	Technical Review
Product Engineering and Qualification Process	PE&Q Process Template	35	Formal Inspection
Build Plan (3 required – one per increment)	Project Build Plan Template	15	Technical Review
Software Requirements Specifications	MIL-STD-498 SRS Data Item Description (DID)	80	Formal Inspection
Interface Requirements	MIL-STD-498 IRS DID	70	Formal Inspection



Department of Veterans Affairs

Document Type	Format Standard	Estimated Page Count	Peer Review Type
Specifications			
Requirements Traceability Matrix	Project Defined	20	Technical Review
Database Design Description (DBDD)	MIL-STD-498 DBDD DID	20	Technical Review
Software Design Description	MIL-STD-498 SDD DID	120	Technical Review
Software Development Folders with code and unit tests (2 required – one per CSCI)	Project Defined	100	Walkthrough
Software Test Plan	MIL-STD-498 STP DID	20	Formal Inspection
Software Test Descriptions (2 required – one per CSCI)	MIL-STD-498 STD DID	60	Technical Review
Software Test Procedures (2 Sets – one per STD)	Project Defined	150	Walkthrough
Integration Test Plan	Project Defined	10	Walkthrough

7.4 QUALITY ASSURANCE

Reference Appendix E

7.5 PEER REVIEWS AND AUDITS

Peer Reviews and Audits will be performed in accordance with Appendix E, on a schedule defined in Appendix A. In addition, the SID PM shall plan and participate in management reviews at locations and dates approved by the EOC. Persons with authority to make cost and schedule decisions attend the reviews. The reviews are scheduled quarterly in Appendix E. The reviews are to keep the EOC informed about project status, directions being taken, technical agreements reached, and overall status of evolving system products. Activities include, but are not necessarily be limited to, those listed below:

- Resolve issues that could not be resolved at IPRs.
- Arrive at agreed-upon mitigation strategies for near- and long-term risks that could not be resolved at IPRs.
- Identify and resolve management-level issues and risks not raised at IPRs.
- Obtain commitments and acquirer approvals needed for timely accomplishment of the project.

7.6 PROBLEM RESOLUTION

The RE & CM project will use the processes for storing, tracking, and directing correction of Problem/Change Reports (P/CRs) and System Change Requests (SCRs) as defined in Appendix F. In addition, the PM will direct that an Action Item database be maintained to track issues raised at all planning, coordination, and joint management reviews to ensure timely action and closure.

To support the resolution of critical issues that may impact the operational readiness of the system, the RE & CM project will have an active Technical Review Board (TRB). The TRB, chaired by the SID PM or an appointed technical manager, is responsible for addressing the key project issues that impact the system's ability to meet specified requirements. The TRB will assist, as directed, in ensuring that planning,



Department of Veterans Affairs

development, and acquisition of computer resources comply with established VA policy, procedures, plans and standards. The TRB also provides technical support to the SCCB. Given below is a set of candidate issues that might be addressed, at the direction of the project manager, by the TRB during the life of the RE & CM project:

- a. Operational concept review to resolve open issues regarding the operational concept for the system.
- b. System/subsystem requirements reviews, or formally documented decision analysis, to resolve open issues regarding the specified requirements for a system or subsystem.
- c. System/subsystem design reviews, or formally documented decision analysis, to resolve open issues regarding one or more of the following:
 1. The system or subsystem-wide design decisions.
 2. The architectural design of a system or subsystem.
- d. System requirements reviews, or formally documented decision analysis, to resolve open issues regarding the specified requirements for a HWCI or CSCI.
- e. Software design reviews, or formally documented decision analysis, to resolve open issues regarding one or more of the following:
 1. The HWCI/CSCI-wide design decisions.
 2. The architectural design of a HWCI/CSCI.
 3. The detailed design of a HWCI/CSCI or portion thereof (such as a database).
- f. Test readiness reviews to resolve open issues regarding one or more of the following:
 1. The status of the test environment.
 2. The test cases and test procedures to be used for product qualification testing or System Qualification Testing.
 3. The status of the hardware and software to be tested.
- g. Test results reviews to resolve open issues regarding the results of product qualification testing or system qualification testing.
- h. System usability reviews to resolve open issues regarding one or more of the following:
 1. The readiness of the system for installation at user sites.
 2. The user and operator manuals.
 3. The system version descriptions.
 4. The status of installation preparations and activities.
- i. System supportability reviews to resolve open issues regarding one or more of the following:
 1. The readiness of the system for transition to the support agency.
 2. The system product specifications.
 3. The system support manuals.
 4. The system version descriptions.
 5. The status of transition preparations and activities, including transition of the system development environment, if applicable.
- j. Critical requirement reviews, or formally documented decision analysis, to resolve open issues regarding the handling of critical requirements, such as those for safety, security, and privacy.

7.6.1 TRB Membership

The Development Group, CM, QA, and the Test and Evaluation Group shall be responsible for providing a representative to the TRB. The representative's responsibilities are listed below:

- a. Attend all TRB meetings.



Department of Veterans Affairs

- b. Provide draft issue papers, as tasked to the member, at a specified period prior to the TRB meeting where it will be discussed.
- c. Update, release, and control technical memoranda reflecting the TRB decisions to the group the member represents.

7.6.2 TRB Chairperson

The SID PM may serve as the TRB Chairperson, although the task may be delegated to a technical manager. In that case, the TRB Chairperson shall be accountable to the PM to report problems as they are encountered by the TRB. The Chairperson's responsibilities are listed below:

- a. Schedule meetings.
- b. Provide the meeting space and administrative support.
- c. Distribute issue documentation to be addressed at the upcoming TRB.
- d. Conduct the TRB meetings.
- e. Record, track, and update action items.
- f. Ensure the minutes of the TRB meetings are recorded and distributed.
- g. Ensure that decisions are distributed within the time frame agreed to by the affected participants.

7.7 CONTRACTOR MANAGEMENT

Contractor resources needed by the RE & CM projects are identified in the planning (or plan revision) process. Elements of the WBS typically become contract requirements. During the planning process, an informal survey of existing contracts is done to see if an existing contract may be used to meet the contract requirements, including schedule and budget requirements.

A COR will be named to oversee the contract and track contractor process and contract status. The COR may be outside of the SID organization; however, they must be technically conversant with RE & CM system development issues. The COR will hold periodic technical reviews with the contractor, and periodic status reviews with the contractor's management. The reviews are for the benefit of the EOC, providing visibility into contractor capability, suitability and performance. Contract activity measurements will be defined in the contract SOW, will complement RE & CM project measurements, and will be reported to the SID PM's designated representative. Contractor planning documentation will be reviewed and approved by the SID PM. The COR will also ensure compliance with VA acquisition regulations.

7.7.1 Contracting Process

A Procurement Requirements Package (PRP) will be published for proposed new contracts. A contract SOW is written. For existing or new indefinite delivery contracts, Delivery Orders, PRPs and SOWs will be written in accordance with the overall contract PRP or SOW. Proposals are collected and evaluated by the COR depending upon requirements satisfaction (cost and schedule), contract type, and contractor capability. An award will be made employing a formally documented decision analysis and resolution process. The COR will administer the contract, and monitor and track contractor performance, including measurement collection, correspondence, funding, and deliverable. The COR will make this information available to the SID PM in a timely manner.

7.7.2 Contractor Performance Monitoring

The SID PM is responsible for the management of contractor performance. The SID PM delegates contractor monitoring on a technical basis to the technical managers, and on a financial basis to the SID PM's Administrative Office. Issues raised at contractor reviews are resolved during the review, assigned to a technical manager, or escalated.



7.8 Process Improvement

The following paragraphs provide data on the RE & CM project's efforts for continuing process improvement.

7.8.1 Systems/Software Process Improvement Lead

The SID Systems/Software Process Improvement (SPI) Lead, assigned by the SID PM, will evaluate RE & CM practices and make recommendations regarding government and industry best practices in key management and development areas and interface with the RE & CM Systems Engineering Process Group (SEPG)

7.8.2 Systems/Software Engineering Process Group (SEPG)

The SID SEPG is responsible to the EOC OIT representative for the development and maintenance of applied system engineering processes. The SID SEPG provides a forum for discussion of systems engineering processes and applicable best practices, and promotes the gathering and dissemination of information on those processes.

The SID SEPG will analyze the measurement data collected and assess the effectiveness and value of the organization's processes. This is done to ensure that the processes are being adapted properly and to identify those processes that need improvement. The SID SEPG will interface with the EOC OI&T representative to perform and/or acquire any required training necessary to implement process improvement within the organization. The SEPG interfaces with the EOC OI&T representative to exchange knowledge on system engineering processes and process improvement on an enterprise-wide basis. The relationship between the EOC OI&T representative, the SID SEPG, and the SID SPI Lead is seen in Figure 2. The EOC OI&T representative establishes overall systems engineering policy and guidance, while the SID SEPG assures sound application of that policy and guidance within the directorate. The SID project SPI Lead serves as the communication interface between the project and the SID SEPG for all issues related to process improvement for the RE & CM projects.



SECTION 8. ADDITIONAL PLANS

8.1 LOGISTICS ENGINEERING

The RE & CM projects perform logistics engineering as an integral part of the development and life cycle support effort. The objective of the integrated logistics engineering activities is to achieve the maximum level of System Operational Effectiveness (SOE) following the guidance of the Program Management Guide.

A system's operational effectiveness derives from a number of component factors that can be described in a hierarchical model, as shown in the figure below.

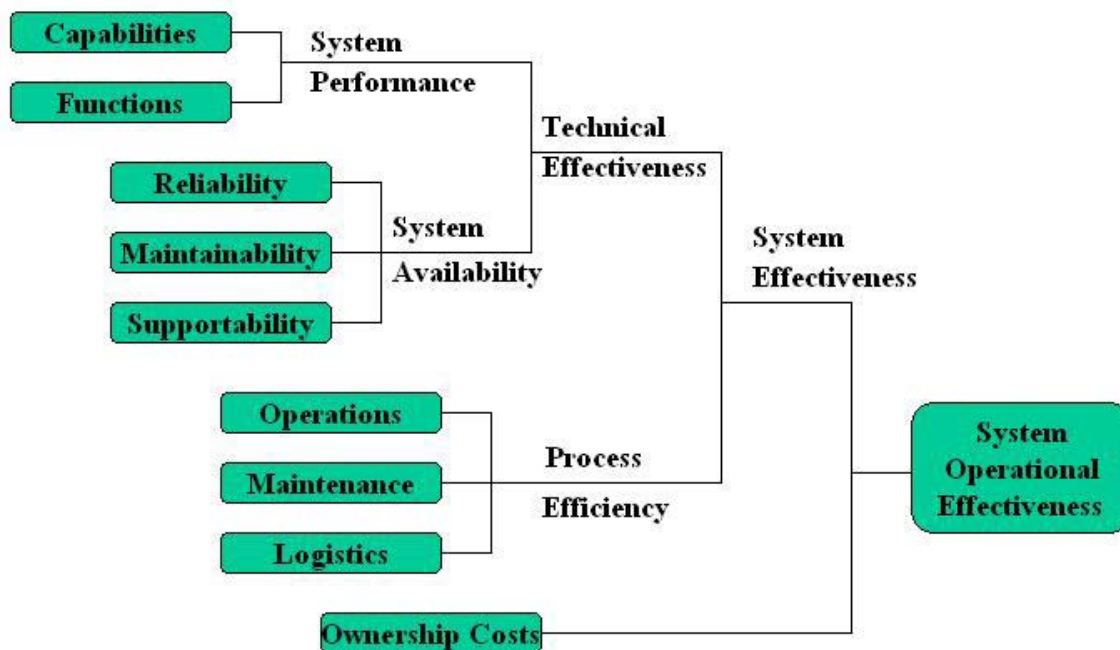


Figure 5: Components of System Operational Effectiveness

8.1.1 System Performance

System performance is realized through designed-in system capabilities and functions. The term capability refers to the various desired performance attributes of the system, such as maximum data rates and message capacity. The term functions refer to the desired mission capabilities and mission scenarios that the system must be capable of executing in an operational environment. For the RE & CM systems, these characteristics are determined during requirements analysis.

8.1.2 System Availability

The components that contribute to system availability include the systems reliability, maintainability, and supportability. Supportability and maintainability are essential components of SOE. For the RE & CM system, these characteristics are determined during requirements analysis and the adjudication of the requirements with the determination of a cost effective component architecture. For example, during the cyclic activities of requirements analysis and architectural design, decisions on 'buy-or-build' for an



Department of Veterans Affairs

architectural component will weigh reliability, maintainability, and supportability as key decision criteria and may cause reconciliation with capability and/or functional requirements.

8.1.3 Process Efficiency

Process efficiency reflects how well the system can be operated and maintained, and to what degree the logistics infrastructure and footprint can be reduced to provide a cost effective, deployable, and operationally effective system. For the RE & CM system, these issues are both a part of the RE & CM project's continuous process improvement efforts and for the end system, they are addressed during the adjudication of requirements and the architectural design processes defined in Appendix D.

8.1.4 Technical Effectiveness

Technical effectiveness reflects the inherent balance between system performance and system availability. These two aspects of the system are designed-in. The PM ensures the processes for designing and assessing supportability are not only applied during the product development framework, but throughout the entire life cycle. Supportability assessments, coordinated with systems engineering, are intended to identify redesign opportunities for fielded systems that would enhance overall operational effectiveness. For the RE & CM project, the continuous improvement of technical effectiveness is inherent in the revision planning for each build of the system and in the efforts for continuous process improvement.

8.1.5 System Effectiveness

System effectiveness reflects the balance achieved between the technical effectiveness and the process efficiency of the system. In this context, process efficiency constitutes the system operational, maintenance, and logistics processes. System effectiveness reflects the real mission capability delivered to the field. The RE & CM PM are ultimately responsible for the resulting system effectiveness.

8.1.6 System Ownership Cost

The final piece in the overall SOE model pertains to cost effectiveness. The over-riding objective is to maximize the system effectiveness from the perspective of the end-user. However, given a resource-constrained environment trade-offs are inevitable among performance, availability, process efficiency, and cost. The PM must address these issues using the SOE model and negotiate the consequences of balancing consideration of performance, cost, schedule, system availability, and process efficiency with the sponsor for each individual RE & CM build and its content.



Department of Veterans Affairs

APPENDIX A. RE & CM MASTER SCHEDULE

RE & CM Master Schedule document



Department of Veterans Affairs

APPENDIX B. RE & CM TRAINING PLAN

RE & CM Training Plan



Department of Veterans Affairs

APPENDIX C. RE & CM MEASUREMENT PLAN

Link for: RE & CM Measurement Plan



Department of Veterans Affairs

APPENDIX D. RE & CM PRODUCT ENGINEERING AND QUALIFICATION PROCESS

Link for: RE & CM Product Engineering and Qualification Process



Department of Veterans Affairs

APPENDIX E. RE & CM QUALITY ASSURANCE PLAN

Link for: RE & CM Quality Assurance Plan



Department of Veterans Affairs

APPENDIX F. RE & CM CONFIGURATION MANAGEMENT PLAN

Link for: RE & CM Configuration Management Plan

[This document will be replaced by the Configuration Management Plan completed by the Metters team]



Department of Veterans Affairs

APPENDIX G. RE & CM RISK MANAGEMENT PLAN

Link for: RE & CM Risk Management Plan



Department of Veterans Affairs

APPENDIX G. RE & CM COMMUNICATIONS PLAN

Link for RE & CM Communications Plan